

CLINICAL MEDICINE

LEADING ARTICLES

	Page
The Etiology and Pathological Physiology of Coronary Atherosclerosis with Cardiac Infarction	309
Fractures of the Nose	312
The Pathology of Subacute Bacterial Endocarditis	314
The Diagnosis of Tuberculosis	317
The Roentgenologist and the General Practitioner	318
The Occiput Posterior Presentation (Graduate Course)	322
Editorials	328

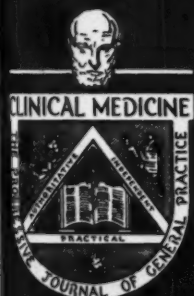
COMPLETE TABLE OF CONTENTS ON
ADVERTISING PAGE FOUR

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The Etiology and Pathological Physiology of Coronary Atherosclerosis with Cardiac Infarction

By NATHAN SMITH DAVIS, III,* M.D., F.A.C.P.

Chicago, Illinois

CORONARY ATHEROSCLEROSIS, a chronic insidious disease, is the primary cause of death of most people who have diabetes mellitus, regardless of age, and of all the people who live to be over forty-five years old, whether their blood pressures have been high, low, or normal. Atherosclerosis and other types of arteriosclerosis of the coronary, cerebral, peripheral and abdominal arteries cause many more deaths than do cancer, or the acute and chronic infections, contagious and epidemic diseases, yet arterial disease has received relatively little attention by research workers. Much less money has been given for research to discover its causes or to find effective methods for its prevention and treatment than for the study of cancer, bacterial and virus infections and some of the other degenerative diseases. As a result, little is known about atherosclerosis except the changes it produces in the heart, kidneys, brain and other tissues.

Etiology of Atherosclerosis

At the present time, there are two popular but unproven theories regarding its etiology. Winternitz believes that atherosclerosis develops following subintimal hemorrhages at points in the arterial tree that are most subjected to stress and strain. Leary believes that the lesions arise because of a faulty cholesterol metabolism.

Both of these workers have presented a mass of evidence in support of their theories, most of it confirmed by other investigators, yet neither theory has been generally accepted. Perhaps atherosclerosis may develop either where there

have been subintimal hemorrhages or where there is an improper fat metabolism, though wear and tear and excessive fat intake may not be the only causes of the changes in the arteries.

The amount of atherosclerosis found at postmortem examinations, has little, if any, relation to the stress and strain to which a particular individual's arteries must have been subjected because of his occupation, mode of life, blood pressure, and participation in athletics. Nor is it directly related to the quantity of food habitually eaten or to whether the individual is under or over weight. The lesions, for some unknown reason, develop in women some ten years later than they do in men. Atherosclerotic plaques are almost always found in the aorta in necropsies on men and women over forty and in the coronaries of those over fifty. Atherosclerosis has been found in young children. The lesions are found to be more numerous in each succeeding age group and are universal in the seventh and succeeding decades.

It would seem that a high incidence of atherosclerosis in one and a low incidence in the other of two individuals of the same age, whose arteries should have been subjected to about the same amount of stress and strain may be accounted for if certain other factors are considered. If the individual who had the most atherosclerosis had for years had an increased capillary fragility, such as is often associated with ascorbic acid deficiencies, he would have more subintimal hemorrhages even if his arteries were subjected to no greater stress and strain than were those of the man who had little atherosclerosis but an adequate intake of ascorbic acid.

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Surveys have shown that even in the Los Angeles area, some forty per cent of a group of aircraft workers had a demonstrable lack of ascorbic acid in their blood. Drugs in general use, for example the salicylates, certain chemicals used in industry, and anything which may cause a tendency to capillary bleeding, may also account for a high incidence of atherosclerosis due to subintimal hemorrhage.

Cholesterol Metabolism

When and if the atherosclerotic lesions are the result of faulty fat and cholesterol metabolism, do the lesions develop because of a high intake of the animal fats, rich in cholesterol (e.g.: egg yolk and butter) or because certain factors essential to their normal utilization are deficient? Most adult men and women ingest a good deal of butter and cream but relatively little cheese and less milk. Many use sauces and eat other foods in the making of which egg yolk, but no egg albumin, is used. Calcium and other minerals, vitamins and aminoacids essential to normal lipid metabolism are present in adequate amounts in whole milk and eggs but not in butterfat or egg yolk. Therefore it would seem that the faulty fat and cholesterol metabolism believed by Leary to be the cause of atherosclerosis, may be due to a lack of one or more compounds essential for normal lipid metabolism rather than to diets high in their content of animal fats.

Atherosclerotic plaques in the coronary and other arteries seldom cause trouble until after the subintimal deposits first appear; possibly not until the lesions are twenty to twenty-five years old. At least, atherosclerosis does not become important as a cause of tissue ischemia, fibrosis or arterial thrombosis until many years later. These sequelae develop only when the lesions are numerous, most of them fibrosed and many infiltrated with calcium deposits. Thromboses then develop with dramatic suddenness in individuals who, even after a most complete and thorough examination, have been found to be free from any evidence of arterial disease.

Why do thrombi form, for example in the coronary arteries, only when the atherosclerotic lesions are old; when the

cholesterol deposits have largely been replaced by scar tissue into which calcium salts are beginning to be deposited? It is only under these circumstances that the blood supply to the intima over them becomes so deficient that intimal cells die to initiate thrombus formation in an otherwise intact vessel. Rarely the pressure of the accumulation of cholesterol may cause intimal necrosis and evulsion of the plaque into the blood stream where as an embolus, it blocks the artery, to cause cardiac ischemia and infarction.

Generally thrombi begin to form over an atherosclerotic plaque when the contraction of scar tissue, fresh subintimal hemorrhage adjacent to it, pressure on intimal cells (From what? Increasing atherosol?—Ed), calcium deposits in the lesion, or insufficient coronary flow so interfere with intimal nutrition that its cells become necrotic and liberate the factors essential to clot formation. But the dramatic onset of symptoms does not appear with the beginning of the thrombus formation. It appears only when the thrombus completely occludes the artery. A thrombus does not rapidly increase in size when the rate of flow of blood is normal. It usually does not become occlusive until several hours after its formation was initiated. Cases have been reported by able clinicians who felt that thrombus formation began some twenty-four hours before the coronary artery became occluded to cause infarction of the myocardium.

Exertion which would ordinarily cause no symptoms, may, if a coronary artery is partially occluded by a growing thrombus, cause an angina of effort because insufficient blood reaches the myocardium. *The physical or mental work causing the anginal syndrome did not initiate the thrombus formation.* The artery would have been blocked almost as soon if the individual had been completely at rest.

Extraordinary and prolonged exertion when combined with exposure to extreme cold, may cause arterial spasm and cardiac infarction without thrombus formation by reducing the blood supply to a portion of the myocardium for a long enough time to cause its cells to become necrotic.

Cardiac infarction may rarely result from the occlusion of the coronary arteries by emboli arising from valvular or mural endocardial vegetations, or from mural thrombi. It is reported that air emboli which form in the blood at altitudes of forty to fifty thousand feet may cause occlusion of coronary arteries and cardiac infarction. Lesions in the aorta, about the coronary orifices, may so diminish the coronary circulation that infarction develops in the absence of thrombosis.

The size of an infarct depends on the location of the occlusion; the number and distribution of branches of the artery which are involved; the amount of collateral circulation present when the artery is occluded; the amount of blood that can be brought to the area by the Thebesian vessels; and the amount of work required for the maintenance of an adequate systemic circulation. Hypertension, physical or mental exertion, excitement, and restlessness are apt to cause large areas of infarction. Blood pressures within normal limits and complete physical and mental rest have the opposite effect. Infarcts involving the deep bulbo and sinospinal cardiac muscles are more serious than those involving the superficial cardiac muscle bundles and those involving two of the bundles, more serious than when only one is affected.

Complete rest is essential after an infarct of the myocardium develops. Otherwise the resulting scar is large and the danger of rupture of the heart is increased. Rupture of a cardiac infarct is most apt to develop some ten to twelve days after the coronary occlusion though it may occur on the first or second day. The break is at the center of the infarct because that is its weakest point. Scar tissue grows in from the surrounding normal myocardium and strengthens its periphery but not the center where necrosis is most complete. It takes from five to six weeks for the connective tissue to grow in from the periphery and mature sufficiently to give a strong scar in which an aneurysmal out-pouching is less apt to develop.

At times, even when two of the main branches of the left coronary have been occluded, there may be no evidence of

infarction. In these cases a large amount of myocardial fibrosis is found months or years later, when the patient dies from a third occlusion or some other cause. No infarct developed, because an extensive collateral circulation had developed before the artery became occluded.

Sudden death within a few minutes of the first symptoms of a coronary occlusion is almost always due to the initiation of a disordered action of the heart. This usually takes the form of ventricular tachycardia followed by ventricular fibrillation. Heart block and cardiac arrest cause some of these sudden deaths.

The type and severity of the symptoms which develop after the patient is permitted to be up and about, depend on the amount of functioning myocardium that remains, and the adequacy of its blood supply. Again the individual who had a normal blood pressure before his coronary became occluded has an advantage over the hypertensive individual. His infarct may be no less extensive and his coronary circulation no more adequate; but, as the myocardium need only sustain a normal pressure, he can without discomfort do more physical and mental work than the hypertensive individual can.

Every patient who has had a coronary occlusion should be instructed to avoid anything that causes discomfort or objective evidence of a falling circulation. Precordial pain leads to much more limitation of activity by the patient than do breathlessness, paroxysmal dyspnoea, orthopnea, dependent edema, undue fatigue or heart consciousness. The heart failure symptom that develops first in a particular patient is the one that indicates that he is overtaxing his heart.

Summary

The prevention of atherosclerosis seems to be dependent on adequate nutrition and the avoidance of exposure to disease, drugs or chemicals that increase capillary fragility or hemorrhage and anything that interferes with lipid metabolism. Such preventive measures are most effective during early adult life when atherosclerosis first begins to develop. Therapy cannot be successful if the process has become irreversible

because of scar tissue infiltration and calcification.

Cardiac infarction is usually due to the formation of an occluding thrombus on an atherosclerotic plaque over which the intima has become necrotic from natural causes; rarely to embolic phenomena or to arterial spasm induced by prolonged, extraordinarily strenuous exertion while exposed to extreme cold. Anginal pain, on ordinary exertion, shortly before the onset of the symptoms of complete occlusion and cardiac infarction is indicative of myocardial ischemia, due to a thrombus which only

partially occludes the artery. It does not mark the initiation of thrombus formation and is not a cause of the subsequent occlusion and cardiac infarction.

Complete physiological rest, until enough time has elapsed to enable strong scar tissue to replace the necrotic myocardium of the infarcted area, is of utmost importance for the minimizing of subsequent disability. When the patient is permitted to again become active, he should carefully avoid doing anything that causes any symptoms or signs of a failing circulation to develop.

Fractures of the Nose*

Following injury, fractures of the nose are often over-looked in the physical examination. Due to ecchymosis and edema, injuries to the nose are hidden or obscured to the point where they are not considered in the examination. The nose should be examined routinely

following all injuries of the head in such a manner that deviation, crepitus or malalignment will be discerned.

The great majority of nasal fractures and septal fractures can be replaced with simple measures available in any office or hospital. Some suggestions will be found with the illustrations.

*Clinical Medicine Staff Article.

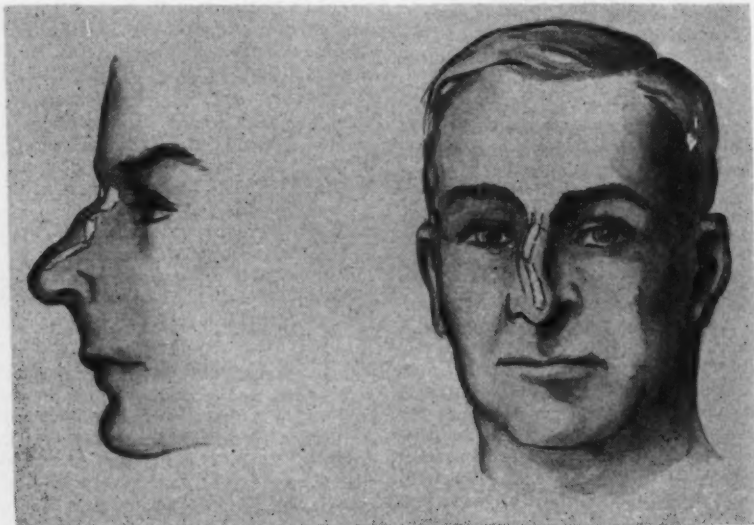


Fig. 1

Fig. 2

Figure 1 is a diagrammatic sketch of a depressed fracture.

Figure 2 is a lateral diagrammatic representation of a deviation of the dorsum of the nose.

ORIGINAL ARTICLES

Examination and Treatment

The digital examination of the nose should be accompanied by examination of the nasal cavities themselves using the nasal speculum or otoscope as aids.

Packing the nose, using adrenalin packs for shrinking of the nasal mucous membrane, in cases of severe injury with edema, will aid in recognizing the location of lacerations, contusions, and fractures of this region. Fractures of the nose can be realigned for a period of seven days following injury. After that period it is impossible to realign them because of the formation of early scar tissue and fixation of the bones in their abnormal position. Early treatment is imperative.



Fig. 3

Figure 3 represents a simple method of replacing a lateral deviated fracture using strong digital pressure against the convex (rounded) side of the nose to attain realignment (adapted from Gurdin).

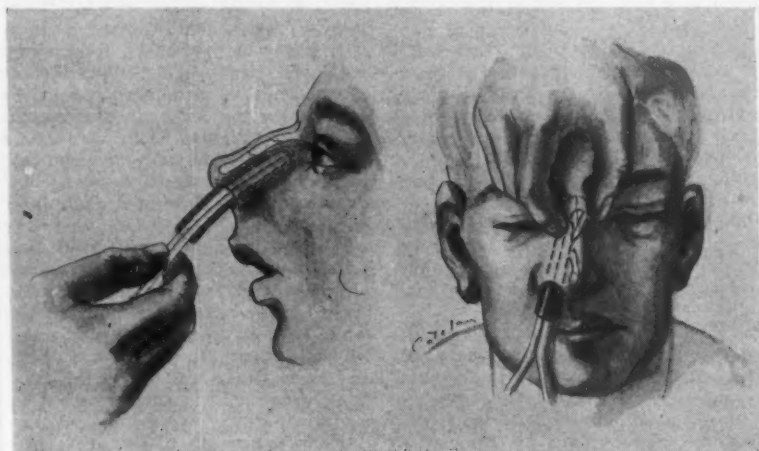


Fig. 4

Fig. 5

Figure 4 indicates a technic of elevating a depressed fracture with a sterile instrument, arethral sound or scalpel handle. If the instrument is covered with gauze or rubber, there will be less injury to the nasal mucosa.

Figure 5 is a frontal view of a lateral deviation showing one method of manipulating fragments into position.

The Pathology of Subacute Bacterial Endocarditis

By HAROLD D. PALMER, M.D.*

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IN order to better define Subacute bacterial endocarditis pathologically it is well to mention briefly Acute bacterial endocarditis. Acute bacterial endocarditis is an arterial pyemia. It is caused most commonly by streptococcus hemolyticus, the staphylococcus, pneumococcus, and the gonococcus. The infection on the heart valves is only a part of the sepsis. In the course of the infection, localization occurs in many other organs including the meninges and the metastatic areas of infection are suppurative. Within the heart itself the lesions are similar in type to those of Subacute bacterial endocarditis but are accompanied by much more destruction.

Subacute bacterial endocarditis has been called sepsis lenta (mild sepsis) by the Germans. Although embolic phenomena are an integral part of the syndrome, suppurative metastatic infection is rare.

Streptococcus viridans (alpha or gamma hemolytic streptococcus) causes 90 to 95 per cent of all cases of Subacute bacterial endocarditis. The influenza bacillus and the gonococcus cause the majority of the few remaining cases. Streptococcus viridans is an organism of low virulence and is relatively non-invasive yet in this disease we have the paradox of an organism with these characteristics causing a progressive and until the advent of chemotherapy, almost uniformly fatal infection. In order to understand this paradox, it is necessary to consider briefly the pathogenesis of the disease.

The disease manifests itself almost always in individuals who have damaged hearts. The rheumatic heart and the congenital heart are most frequently involved. Although occasionally it occurs during the active stage of rheumatic fever, bacterial endocarditis usually complicates the quiescent stage of this disease. When congenital malformations of

the heart are concerned, the following lesions are most often present in the order named. (1) The bicuspid aortic valve with or without aortic coarctation, (2) patent interventricular septum, and (3) patent ductus arteriosus. Some 4 per cent of individuals with rheumatic heart disease eventually develop Subacute bacterial endocarditis. It has been said that 25 per cent of individuals with patent ductus arteriosus develop this complication. It is because of the great numerical preponderance of cases with rheumatic heart disease over those with congenital lesions that the former is the most common antecedent lesion.

The organism of course, reaches the heart through the blood stream. The areas of damage in the heart are the "soil" of decreased resistance which allow the organisms to implant. It has been demonstrated within recent years that temporary streptococcus viridans bacteremia is a very common event. In fact, it has been spoken of as a "physiologic leak."¹ In the individual who has a normal heart, this organism is cleared very rapidly from the blood stream and such bacteremia no doubt occurs very commonly without symptoms.² In the individual with a damaged heart, localization and development of the organism is the first event in the development of Subacute bacterial endocarditis.

The question may be asked, "How does a non-invasive organism get into the blood stream so frequently?" Many strains of the streptococcus viridans prefer to grow in an atmosphere of reduced oxygen tension. The mouth and pharynx are the natural habitat of this organism. In other words, it is a part of the normal bacterial flora of the mouth and throat. It tends to localize in the areas in the mouth and throat which provide it with an atmosphere of reduced oxygen tension. Pyorrheal pockets and the crypts of the tonsils provide these conditions and for this reason this organism is constantly present in these loci. Teeth

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with cavities allow a portal of entry through the pulp to the alveolus with resulting infection at the apex of the tooth root. This infection is not demonstrable by x-ray except in unusual instances. The extraction of such a tooth allows organisms to be aspirated into the small venous capillaries which are ruptured. This is considered to be siphonage.³ In this way the organism reaches the blood stream without exhibiting invasive properties of its own. It is probable that the trauma incident to mastication alone may result in streptococcus viridans bacteremia in individuals with oral sepsis. It has been induced by massage of diseased gums.⁴ As it circulates through the reticulo-endothelial system, it is removed and destroyed. In reaching the reticulo-endothelial system, however, it is necessary to pass over the heart valves. When they are damaged, localization may occur.

Clinical Pathology and Pathologic Anatomy

Heart:

Once the infection is established in the heart, the resulting clinical picture is a combination of three overlying processes; namely, infection, embolization, and heart damage. The onset may be very gradual with pallor, fever, and malaise, or in other cases following the extraction of teeth, may be initiated with chills and high fever. Another type of onset is the sudden appearance of emboli in the retina, the brain, or in the mesentery. In a third type of onset the symptoms are related to heart damage. Abrupt changes in the course may occur with rupture of heart valves or chordae tendineae. Finally nutritional deficiency, especially of thiamine⁵ may cause damage to the myocardium and add to the cardiac symptomatology.

The lesion in the heart differs from that of rheumatic fever. In the latter disease the vegetations are very small, wart like, flat, and appear as an orderly row of beads along the line of closure of the valve. In Subacute bacterial endocarditis the vegetations are massive, pendulous, and are disorderly in arrangement. They may be found along the line of closure, on the chordae tendineae, and on the posterior wall of the left

auricle (Osler's patch). The mitral valve is most frequently involved, the aortic valve next, and the vegetations on the left side are in great preponderance over those on the right. When the right side of the heart is involved, it is usually associated with congenital lesions; namely, patent interventricular septum and patent ductus arteriosus.

The vegetations are essentially infected thrombi. A mass of structureless material is found at the base above which are colonies of bacteria within columns of platelets and fibrin. From these vegetations bacteria are fed into the blood stream and result in positive blood cultures in a majority of cases. However the bacteremia is not constantly present and may require repeated blood cultures for its demonstration. Also during the course of this disease bacteria free stages in which blood cultures are consistently negative occur.

The myocardium and pericardium are not involved specifically in this disease but may be embolized. The heart muscle shows the usual effects of prolonged infection and may show the added effects of thiamine deficiency.

Emboli:

Embolization is an integral part of the disease and results from the loosing of vegetative lesions from the heart into the circulation. It may be said to be present in all cases. When the lesion is limited to the right side of the heart, it may not be easily demonstrated. Petechial hemorrhages in the skin are regularly present when the lesion is on the left side and they are prone to develop in "showers." Tender finger and toe pads develop because of embolization in subcutaneous areas. Splinter areas of hemorrhage under the nails are characteristic. Occasionally nodes (Osler's nodes) develop around the joints of the fingers and wrists. These are reddened, painful, and tender. They represent infarctions in subcutaneous tissues.

Embolization of the spleen with subsequent infarction results in pain, which if the diaphragmatic surface of the spleen is involved, may be interpreted as pleuritic pain. The spleen becomes enlarged regularly as a result of reticulo-endothelial hyperplasia.

Embolization of the glomerular capillaries is an almost constant lesion in involvement of the left side of the heart. Because of this, blood is present in the urine in microscopic amount and the glomeruli show infarction of all or part of their capillaries. Since this is a focal lesion it does not lead to renal insufficiency. However diffuse glomerulonephritis may be a complication of Subacute bacterial endocarditis.

Embolization of the mesenteric artery results in infarction of the intestine, intestinal obstruction, and signs of the acute abdomen.

Embolization of the small capillaries in the brain is common and involvement of the larger cerebral vessels may result in the clinical signs of apoplexy.

Occasionally larger vessels in the extremities especially the legs may be embolized with resulting gangrene. When larger vessels are involved, so-called mycotic aneurisms result because of the non-suppurative arteritis which develops. When these occur in the cerebral vessels, the aneurism may subsequently rupture and result in subarachnoid hemorrhage. Retinal embolization is also constant when the left side is involved.

With involvement of the right side of the heart multiple embolization occurs in the lungs and mycotic aneurisms may form in the pulmonary arteries sometimes giving the x-ray findings of tuberculosis. The heart itself may be em-

bolized through the coronary arteries. This of course, results in myocardial infarction and the usual clinical picture of that lesion.

In the blood a progressive microcytic, slightly hypochromic anemia develops. This is the result of intoxication of bone marrow by the infection plus embolization of the bone marrow with infarction of the hematopoietic tissue. A leukocytosis of low grade is typical and with the leukocytosis the differential count shows an increase in monocytes.

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High Protein, High Caloric Diet in Peptic Ulcer

V. J. Vinci, M. D., (*Connecticut S. M. J.*, 10, 281, April 1946) recommends the following dietary management of peptic ulcer whether the patient is to be treated medically, or prepared for surgical intervention. Hourly feedings from 7 AM to 9 PM of five ounces per feeding of the following mixture:

Amigen	227.00—7.5 ounces
Dextri-maltose	227.00—7.5 ounces
Water	817.00—27.0 ounces
Milk	680.00—24.0 ounces
20% Cream	680.00—24.0 ounces

This is supplemented by 90 grams of

strained cooked cereal at noon and night and by two soft boiled eggs during the day. Vitamins are given in addition. No antacid is used since Amigen (amino acids from hydrolyzed casein) is a natural antacid and no advantage was noted when additional substances were tried. Calories: 3760 without the egg and cereal, 4078 with these supplements. The regime may be started within a few hours after massive gastric bleeding.

The author concludes, from observation of thirty patients so managed, that this regime is an improvement over conventional methods for both complicated and uncomplicated peptic ulcer. (This technic provides protein, carbohydrate and fat in easily digested form.—Ed.)

The Diagnosis of Tuberculosis*

By CHARLES D. MARPLE, M.D., Los Angeles, California

THERE are no "short cuts" in the diagnosis of tuberculosis. Each step in the following outline has its proper place in the recognition of active disease:

PROCEDURE	POSITIVE RESULTS	NEGATIVE RESULTS
HISTORY and PHYSICAL EXAMINATION	Evidence of intra-or extra-pulmonary pathology, etiology suspected perhaps, but not proven.	Insufficient in itself to rule out tuberculosis.
SKIN TEST (TUBERCULIN TEST) (Must use a potent tuberculin and proper technic.)	Indicates the presence of living tubercle bacilli in the body, but does not locate, nor indicate their significance.	Strong evidence against active tuberculosis, except during first weeks and in acutely ill, or terminal cases.
X-RAY OF CHEST	Shows macroscopic lesions in unobstructed areas and <i>does not establish etiology</i> . Lesion may be fungous, sarcoid, pneumonitis, lung abscess, cancer.	May miss microscopic lesions, or those behind heart, ribs, or diaphragm. <i>If suspicion is strong, repeat at intervals</i> . Remember extrathoracic tuberculosis. (Kidney, bone)
EXAMINATION OF SPUTUM AND/OR STOMACH WASHINGS	Confirm positive reports: non-pathogenic acid-fast bacteria and materials are found in sputum and in stomach washings.	Repeated sputa and/or stomach washings may be necessary to demonstrate tubercle bacilli. Must review differential diagnosis.
GUINEA PIG INOCULATION	Proves clinically active tuberculosis.	Merely indicates that no virulent living bacilli are present in specimen inoculated. Inactive lesions may become active!

When the suspicion of tuberculosis is strong and all studies are negative, recheck the patient at suitable intervals.—*Clinical Medicine Staff Resume.

The Roentgenologist and the General Practitioner

By HUGH F. HARE, M.D.,* Boston, Massachusetts

WE HAVE recently commemorated the fiftieth anniversary of the discovery of x-rays by Wilhelm Konrad von Roentgen. It is a fitting time to review the progress made by using this method of medical diagnosis.

The specialty of roentgenology is still growing yet it has proved again and again its value in diagnostic and therapeutic medicine. Its field of usefulness in medicine is so great that it is difficult, if not impossible, for any one individual to keep up with the various diseases demonstrated by this means. In time, we will have x-ray specialists in the various medical specialties in all the larger medical centers.

Routine Chest Roentgenograms

The trend at the present time is pointing toward routine roentgenologic examinations of the chest in all fields of industry. It may come about that all people in the United States will have some form of roentgen examination of their chest. We have seen the value of this examination demonstrated by the routine induction x-rays by both the Army and Navy during the past war. A roentgenogram of the chest is again taken at the time of separation of the individual from the military service. To have knowledge and a permanent record of the chest of so many individuals will, in a few years, prove of untold value not only to medicine but to the patient.

We will undoubtedly see the time when every individual who enters a hospital will have a roentgenogram of the chest. This is frequently done at the present time and its value has been demonstrated and reported by several well recognized authorities.

There are some unfortunate aspects to the routine type of roentgen examination. The roentgenologist who reads the film is unacquainted with the patient or his history and *regardless of the interpreter of the roentgen shadow, the history remains the most important*

single method of making a clinical diagnosis of any disease.

To try to reduce the importance of the clinical history and even in some cases to force it into 'oblivion by mass survey will not strengthen medicine of the future. This one point alone, makes it imperative to maintain a close relationship between the general practitioner of medicine and the roentgenologist. We have weapons of almost equal strength which, if used together, will lead to progress in medical diagnosis; when used separately, one or the other method is indeed likely to stray. The practitioner is swayed in his diagnostic approach by the knowledge of the history and the background of the patient, while the roentgenologist is swayed by the radiographic findings. It is fortunate that most cases are easily diagnosed, but not infrequently a consultation by both the practitioner and the roentgenologist is a necessity.

The General Practitioner's X-Ray

Today, many practitioners of medicine have their own radiographic apparatus which is indeed an important part of their diagnostic armamentarium. When time allows, these individuals are most anxious to attend conferences and meetings on roentgenology to improve further their knowledge of x-rays in order that they may make better diagnoses and avoid the pitfalls which are constantly present.

During the past fifteen years there has been definite improvement in the quality of the x-ray film in all diagnostic laboratories, but I believe that the roentgenograms taken by the general practitioner have shown a greater degree of improvement than those made in the large medical centers, and it is with good x-ray films that better diagnoses will be made.

The general practitioner today must be capable of taking roentgenograms of all parts of the body and of correlating the resulting radiogram with the clinical knowledge. He uses x-ray for examina-

*Department of Radiology, The Lahey Clinic.

tion of the chest, bones, gastrointestinal and urinary tracts. A review of some of the common roentgenographic changes frequently encountered may prove of some value to the general practitioner.

Bone Tumors

In the diagnosis of bone tumors the roentgen examination is paramount. Our knowledge of bone tumors has increased rapidly because of the interest taken by surgeons, roentgenologists and pathologists who have made collections of various types of bone tumors and have correlated the clinical findings with the roentgenographic and histologic changes in each case. This has led to a satisfactory working classification of bone lesions.

In our experience, the roentgen examination is in most cases diagnostic and has been more accurate than the histologic studies based on a single biopsy. The biopsy specimen only too often is too small and is not taken from the most important part to demonstrate the type of tumor present, while the roentgenogram permits a view of the entire tumor.

It is necessary to have several views of all bone tumors so that we may see all parts of the tumor. Routine anteroposterior and lateral views are not enough for exact diagnosis. Oblique views are also necessary if one is to detect destruction of the cortex, and we must have soft tissue studies as well as films of bone detail. In many cases roentgenograms of the entire body, especially of the long bones and lungs, are necessary if a complete diagnosis is to be made.

The main weakness which has been apparent as far as the general practitioner is concerned is that frequently x-rays are taken only of the part of the body in question, while with additional films of other bones more than one lesion may be demonstrated and a more accurate diagnosis might have been made.

While the roentgen examination is frequently more accurate than a single biopsy, one should not depend upon the radiogram and the clinical findings alone but should also take an adequate biopsy

specimen. Then if the findings are not clear he should seek the opinion of one who has had more experience and is more capable of correlating the findings.

Fractures

The use of x-rays by the general practitioner in the diagnosis of bone disease or fracture is undoubtedly the most common usage of x-rays. It has become a routine and in some states even a law that one must take a roentgenogram to show a fracture before bone-setting and one after the fracture has been set. Most physicians are anxious to have a record of their work and are proud of it. It is only the occasional medicolegal case that makes it necessary to have laws to protect the physician and the patient.

"Heart" Disease

Recently, a patient with a history suggestive of coronary thrombosis was presented at one of our x-ray conferences. On examination, he had a hernia through the esophageal hiatus which accounted for all of the symptoms. A general practitioner attending the conference was so impressed that he is now reviewing some of his cases with this in mind. One patient, he told me later, did not have heart disease at all but did have a hiatus hernia. It is not difficult nor very time consuming to demonstrate this type of lesion and this examination should be used on all patients who require fluoroscopy of the heart. During routine fluoroscopic examination of the chest it is always advisable to give a few swallows of barium to rule out disease or displacement of the esophagus, and at the same time the patient may be put in the prone and supine position to exclude the presence of this type of hernia.

Fluoroscopy of Heart

In addition to the appearance of the esophagus at the time of fluoroscopic examination, the following should be noted: The general contour of the heart, which chambers, if any, are enlarged, the type of rhythm present, the contour of the aorta, the relative mobility of the diaphragms, the appearance of the hila and the peripheral lung fields.

This addition to the regular roentgen examination serves to strengthen any roentgenologic diagnosis and also leads to the taking of a history relative to the parts examined.

Most diseases which have been diagnosed by roentgen changes should have their progress checked frequently by further x-ray examination. This has not been done as frequently for private patients as for those attending free institutions. It indicates that the interest in the disease is present but that the cost of the examination prevents the private patient from having frequent roentgenograms to check the progress of his disease. If we are to correct this weakness, the hospital should reduce the fees for reexaminations if it fixes the charge. If the roentgenologist makes the charge he should likewise reduce his fee in order to encourage the general practitioner to make use of this valuable examination. I have never talked with a private practitioner of radiology who was not willing to reduce the fee for reexaminations during the same illness. We urgently request the practitioner, who is most interested in the patient, to tell the patient to inform the specialist of this problem when it is present.

Backache

Two of the most common complaints of patients are backache and constipation. In these two conditions physical examination is secondary to history and roentgenologic evidence. The importance of the roentgenologic examination of the lumbar spine in the presence of backache cannot be overstressed and it is of paramount importance that good films showing bone detail should be taken in all instances so that the cause of the backache may be discovered. When the pain is referred to the low lumbar region, films centered over this region, both anteroposterior and lateral, are necessary and, in addition, a 45 degree angle view of the sacrum should be made which allows visualization of the entire sacrum and of the sacro-iliac joints. A description of the technic in taking this view has been reported in other articles; it is a view which is frequently not taken and yet is neces-

sary for diagnostic purposes. The descriptions of the roentgenograms to be taken have been referred to the lumbosacral spine as this is the most frequent location of backache.

The most frequent disease involving the spine is arthritis. In the younger age group, Marie-Strümpel type is the most common, while in the older age group, degenerative arthritis is the most frequent. In either case a good view of the sacro-iliac and of the interspace between the last lumbar and first sacral vertebrae is necessary for careful study and opinion. The reaction around the sacro-iliac joints in Marie-Strümpel arthritis is an early bone change—the first change noted in more than 90 per cent of these cases, and yet the average duration of symptoms before the diagnosis is made by x-rays is more than three years. This is because a routine view of the sacro-iliac joint is not taken to show these changes.

One must remember that plain x-rays of the lumbar spine are not in all cases diagnostic and that subsequent special examinations must be made in order that pressure on the nerve roots may be visualized which cannot be seen in the ordinary roentgenogram. Many medical centers are now injecting pontopaque or lipiodol into the spinal canal and studying the spinal canal under fluoroscopic control. This allows visualization and diagnosis of intraspinal tumors and roentgenologic demonstration of any pressure defect on the canal or on the nerve sheath. In some medical centers oxygen myelograms are used to demonstrate these lesions. The important thing to remember is that all types of examination may be necessary in some cases in order to make a satisfactory diagnosis.

Gastrointestinal Study

The frequency of gastrointestinal disturbances in all classes and types of patients is well recognized and it is in this field that the general practitioner may well make the most use of the roentgen examination. It is necessary, however, for him to fluoroscope each patient, and a knowledge of the normal gastrointestinal tract is indeed important if he is to make a diagnosis of

pathologic change. In all roentgenograms of the gastrointestinal tract it is necessary to be thorough and make a time-consuming examination of the esophagus, stomach, duodenum, entire small bowel and colon, provided the history warrants such an examination. The history of gastrointestinal disease is all important and should not be neglected in any case even though the x-ray examination is negative. Frequently it is impossible, on roentgen examination, to demonstrate small ulcers, especially in their early stages, but if the history is suggestive of disease, particularly of ulcer, frequent examinations should be carried out on the same patient until the physician is entirely satisfied that no lesion exists. The diagnosis of functional disease of the gastrointestinal tract is to be made entirely as a result of the history and physical examination and of negative roentgenologic findings. *A diagnosis of functional disease should not be made from the roentgen examination alone.* The practitioner who takes numerous films of the gastrointestinal tract, especially when he feels that a lesion may be present, will many times make the diagnosis as a result of these extra studies.

Colon X-ray

Roentgenologic examination of the colon to rule out disease has been and still is a disappointment to those practitioners who depend upon it for diagnosis of lesions involving the rectum. Rectal diseases and tumors of the rectum are not within the diagnostic prov-

ince of the roentgenologist. Each patient who requires a barium enema for exclusion of disease should have a proctoscopic or sigmoidoscopic examination prior to the barium enema if there are any symptoms referable to the rectum.

The diagnosis of lesions of the colon by the roentgen ray, then, is limited to that portion of the bowel above the rectum and if lesions other than advanced malignant disease causing partial obstruction or inflammatory lesions such as ulcerative colitis are to be diagnosed, then the colon must be cleansed as thoroughly as possible of fecal material. We have read in the past few months of patients who were harmed by the routine use of laxatives given for cleansing the colon in cases of diarrhea and partial obstruction. This may be avoided by calling the roentgenologist and summarizing the history. If more care is taken in this way, better diagnoses will be made. Again, let me emphasize that the diagnosis of lesions of the rectum should be made by anal examination and, unless the disease is far advanced, cannot be made by x-rays. This is important since in more than 70 per cent of cases of colonic disease the lesion is within range of visualization by the sigmoidoscope.

This article has been written in the hope of bringing about a closer relationship between the roentgenologist and the general practitioner. We have much in common and it is through coordination of the clinical and roentgen ray findings that the best medicine will be practiced.

Lip Lesions

Inflammation of the lips and fissures at the corners of the mouth may be caused by part of the vitamin B complex deficiency or may be on an allergic, anatomic, mechanical or infectious (bacterial or monilial) basis. Only after the latter causes have been ruled out should vitamin therapy be instituted. The entire vitamin B complex, in the form of liver extract (3 cc. of the crude

extract given subcutaneously three times weekly), or brewer's yeast in doses of 1 heaping tablespoon three times a day should be employed. If there is no response to treatment with riboflavin, 5 mgs. three times daily and to pyridoxin, 100 mgs. daily intravenously for at least one week, nicotinamide may be employed in doses of 100 mgs. 3 times a day for one week.—E. URBACH, M.D., *Penn. Med. J.*, May, 1946.

The Occiput Posterior Presentation

(GRADUATE COURSE)

One of the bugaboos of obstetrics, as taught a few years ago, concerned the occiput posterior presentation, and the difficulties involved in its recognition and management.

There is a growing tendency among obstetricians and obstetric teachers to regard the occiput posterior presentation as a normal occurrence in many women and to ignore its presence until the cervix is fully dilated and adequate labor pains have occurred for at least 1 hour. "Watchful waiting," sedation and feeding of the patient often permit the usual rotation of the occiput anteriorly and avoid harmful interference. *Never forget to determine the size of the pelvis.*

If the occiput does not rotate anteriorly, one may rotate it with the hand (safest) or forceps, followed by forceps extraction or may deliver the head still in the occiput posterior position.

Clinical Medicine's staff artist illustrates the presentation and a number of methods of managing it. Through the courtesy of the Freudenthal Health Center, Trinidad, Colorado, we publish letters from leading obstetricians concerning their management of this complication:

THADDEUS L. MONTGOMERY, M.D.
Philadelphia, Penn.

"Occiput posterior presentations cause us no concern as long as the proportions of the baby's head and the mother's pelvis are normal—and as long as there is no gross deformity of either. One should particularly not get worried about an occiput posterior before the membranes have ruptured, for when the membranes rupture frequently the head descends, rotates quite normally and the obstetrician finds that he has a quite normal anterior presentation.

"Almost all of the occiput posterior positions will rotate themselves in a normal pelvis. If they do not, the simplest procedure for correction is a manual rotation followed by spontaneous delivery or low forceps delivery. The

secret of the situation seems to be to make sure by careful examination that the pelvis is adequate, and then wait long enough for dilatation of the cervix, rupture of the membranes and a spontaneous delivery." (2031 Locust St.)

R. GORDON DOUGLAS, M.D.
New York Hospital, New York City.

"When an occiput posterior position is recognized early, nothing should be done. Only occasionally is it necessary to carry out a Scanzoni maneuver or manual rotation. Operative intervention should be deferred as long as possible and in our experience, the natural forces of labor will look after most such complications." (Associate Professor of Obstetrics, Cornell University Medical College).

ALLAN F. GUTTMACHER, M.D.
Baltimore, Maryland.

"We look upon occiput posterior with relative indifference and do not attempt to correct it unless there has been a second stage of two hours or longer without any evidence of progress. Whether one delivers the occiput posterior as such or does a Scanzoni maneuver is a matter of indifference. In the hands of the general practitioner, I should imagine the former procedure is the safer." (1039 N. Calvert St.)

LOUIS E. PHANEUF, M.D.
Boston, Massachusetts

"The treatment of early occiput posterior presentation includes. 1. observation in early stages, 2. analgesia, 3. support for the patient, with liquid diet if necessary and 4. intravenous fluids. The highest percentage of such patients deliver spontaneously.

"In late occiput posterior presentation with the cervix fully dilated, the membranes ruptured and the head engaged, one may employ 1. manual rotation and forceps extraction, 2. the Scanzoni maneuver or 3. Kjelland forceps. If cephalo-pelvic disproportion exists, ce-

GRADUATE COURSE

sarean section may be considered but this forms only a very small number of such cases." (270 Commonwealth Ave.)

BRUCE ALEXANDER HARRIS, M.D.
Brooklyn, N.Y.

"I do not feel that a posterior presentation is abnormal. It often results in a long labor; the patient must be rested and given intravenous glucose solution. When the head is on the pelvic floor, I often deliver these patients with low forceps and episiotomy. Such patients often have their labors interfered with by too much analgesia." (174 Clinton St.)

ALTON G. CUMMINGS, M.D.
Cleveland, Ohio

"Many early occiput posterior presentations rotate and give no trouble, if the pelvic measurements are normal. This is a matter for decision in the individual case. Late occiput posterior presentations, provided abnormalities have not been overlooked, can usually be delivered by the Scanzoni maneuver or by podalic version." (3109 Mayfield Road).

FREDERICK C. IRVING, M.D.
Boston, Massachusetts.

"We are not in favor of intervention before the completion of the first stage of labor. Our attitude is expectancy in the first stage of labor and for about 2 hours in the second, since a number of posterior positions rotate the full 135° and are born spontaneously. If the second stage is prolonged and it is necessary to perform a forceps operation, we prefer manual rotation of the head of the anterior position and application of forceps to it as such. The Scanzoni maneuver employed by an untrained man will produce a high degree of trauma." (Professor of Obstetrics, Harvard University).

H. L. WOODWARD, M.D.
Cincinnati, Ohio.

"We consider the majority of occiput posterior cases as normal and treat them as such, with watchful waiting, plenty of sedatives, being on the lookout for contracted pelvis. We consider attempts to rotate high in the pelvis as misdirected effort for the head usually

comes down better posterior and rotates on the pelvic floor.

"When assistance is needed, we use forceps rotation at the lower levels after bringing the head down, even when the occiput has rotated to the sacrum." (Professor of Obstetrics, University of Cincinnati).

EARL C. SAGE, M.D.
Omaha, Nebraska.

"Early occiput posterior presentations should be left alone. . . . Eighty-five percent of occiput posterior presentations rotate to occiput anterior. . . . There should be no unjustifiable dread of labor when the occiput is posterior. Probably one-third or one-fourth of all labors start as occiput posterior.

"Late occiput posterior: There are three cardinal principles in treatment—await dilatation, await engagement, await rotation. There is a great difference of opinion as to when to interfere, but there is one rule to always observe—never interfere until the cervix is completely dilated and effaced. Most authorities agree that when the posterior presentation has persisted for 2 to 3 hours, after the cervix is dilated, the physician should rotate the occiput to the front." (1234 Medical Arts Bldg.)

BAYARD CARTER, M.D.
Durham, North Carolina.

"To us, occiput posterior presentations are normal presentations and the patient should be allowed to labor, as in occiput anterior presentations." (Department of Obstetrics, Duke University).

SAMUEL LUBIN, M.D.
Brooklyn, N. Y.

"No interference is necessary with early or late occiput posterior providing labor is progressing satisfactorily. If there is an arrest in progress, one might consider manual rotation, forceps rotation or forceps delivery as a posterior position, if the head has reached a low enough station in the pelvis. In addition to the above, the patients should be fortified against dehydration, fatigue and acidosis by appropriate measures. The operative procedures mentioned above should be carried out only by one capable of performing them."

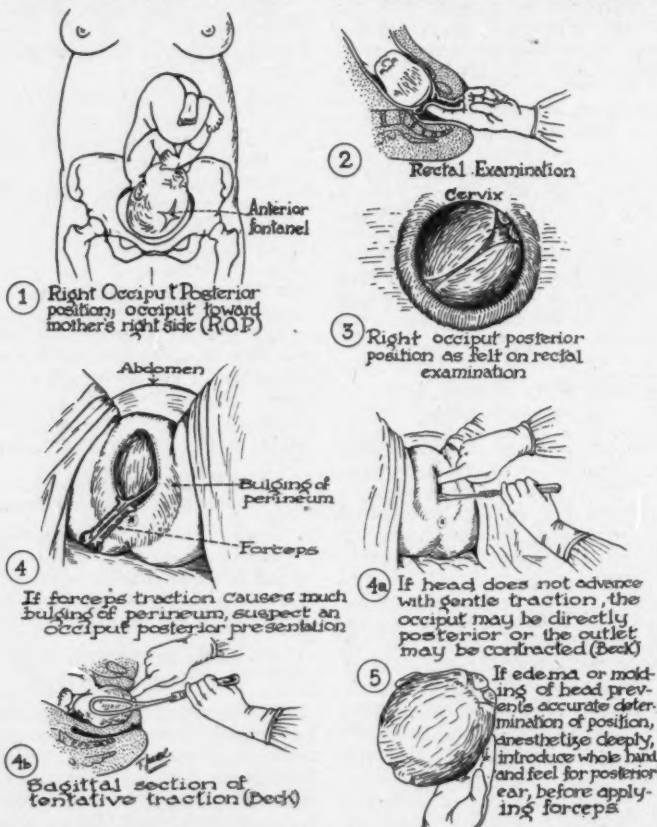
OCCIPUT POSTERIOR

WILLARD R. COOKE, M.D.
Galveston, Texas.

"The early occiput posterior should be interfered with, rarely if ever, since many labors start with an occiput transverse or posterior. Spontaneous rotation occurs without difficulty in the majority. Routine attempts to rotate the head before it reaches mid-pelvis involves the unnecessary introduction of potential infection in many cases, and recurrence

of the posterior position is exceedingly common. Most cases of occiput posterior require more analgesia than the anterior cases.

"Late occiput posterior: Interference depends upon the failure of descent, i.e. transverse arrest or persistent occiput posterior. Many occiput posteriors deliver spontaneously, and there is no reason for intervention if there is no arrest. Once arrest is definitely established, I



- Fig. 1. Right occiput posterior (R.O.P.) position; occiput toward mother's right side.
Fig. 2. Rectal examination.
Fig. 3. Right occiput posterior position as felt on rectal examination.
Fig. 4. If forceps traction causes much bulging of perineum, suspect an occiput posterior position.
4a. If head does not advance with gentle traction, the occiput may be directly posterior or the outlet may be contracted (Beck).
4b. Sagittal section of tentative traction (Beck).
Fig. 5. If edema or molding of head prevents accurate determination of position, anesthetize deeply, introduce the whole hand and feel for the posterior ear, before applying forceps.

see no reason for permitting labor to continue without intervention. The procedure is a matter of personal choice. Some men prefer manual rotation, others rotation with forceps; whichever the individual can do best, is right. If for-

ceps are used, a real knowledge of the mechanism of labor makes the procedure extremely easy, and the Bill modification of the Scanzoni maneuver should always be employed. With sufficient knowledge of the factors involved, it is often pos-

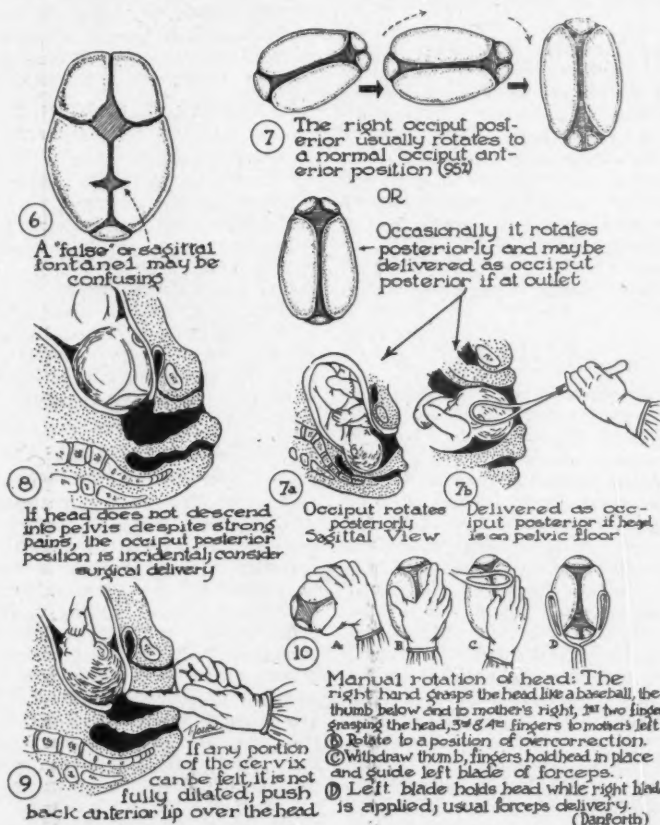


Fig. 6. A "false" or sagittal fontanel may be confusing.

Fig. 7. The right occiput posterior usually rotates to a normal occiput anterior position (95%), or occasionally it rotates posteriorly; it may be delivered as occiput posterior, if at outlet.

Fig. 8. If head does not descend in pelvis despite strong pains, the occiput posterior position is incidental; consider surgical delivery.

Fig. 9. If any portion of the cervix can be felt, it is not fully dilated; push back anterior lip over head if it retards progress.

Fig. 10. Manual rotation of head: The right hand grasps the head like a baseball, the thumb below and to mother's right, first two fingers grasping the head, third and fourth fingers to mother's left.
(b) rotate head to a position of over-correction
(c) withdraw thumb; fingers hold head in place and guide left blade of forceps between fingers and head.
(d) left blade holds head while right blade is applied; usual forceps delivery (Danforth).

OCCIPUT POSTERIOR

sible to make a proper cephalic application of the forceps at or below the mid-pelvis, regardless of the position of the head." (Professor of Obstetrics and Gynecology, University of Texas Medical Branch).

J. W. BOURLAND, M.D.

Dallas, Texas.

"These measures for early occiput posterior—sufficient sedation to prevent exhaustion, buckle binder and keeping the patient on the side in which the back of the child lies.

"For late occiput posterior—most of these will rotate if given time. If the child is not too large, deliver slowly after performing a free episiotomy. If sufficiently skilled, manual rotation of head and shoulders or the Scanzoni maneuver." (Dallas Medical and Surgical Clinic).

I. A. SIEGEL, M.D.

Baltimore, Maryland.

"In the case of early diagnosis of occiput posterior presentation, it is always wise to be certain that there is no disproportion between the presenting part and the pelvis. If such is not the case, the patient should be allowed to go into labor and treated expectantly. In the case of a late diagnosis of occiput posterior presentation, the patient having been in labor for many hours, and the presenting part being well in the pelvis with the cervix fully dilated, delivery should be carried out with forceps, either in posterior presentation or by rotation to an anterior presentation. The Scanzoni maneuver or Kielland forceps should be used, always being careful that the patient is prepared for this operation with intravenous glucose, to take care of her fluid needs." (Director of Obstetrics, Franklin Square Hospital).

CHARLES E. ZIEGLER, M.D.

E. S. Magee Hospital, Pittsburgh, Penn.

"In cases of occipito-posterior presentation early in labor, with no pelvic disproportion, the expectant plan of treatment is our choice. If the occiput persists posteriorly after a good trial of labor after the cervix is effaced and the os is open, the occiput is rotated manually or with forceps after the head is engaged, or in the presence of an

ample pelvis. If the head fails to engage and is still moveable above the inlet, an internal podalic version is the operation of choice, in the absence of pelvic disproportion and where the membranes have not been ruptured so long as to cause the uterus to be clamped tightly about the baby. A version in such cases is frequently followed by rupture of the uterus." (Professor of Obstetrics, University of Pittsburgh).

FREDERICK L. GOOD, M.D.

Boston, Massachusetts.

"I have always made it a practice to convert a posterior occiput to an anterior position, not merely by twisting the baby's neck but by converting the whole baby, body as well as head, from manipulation. This maneuver cannot be easily and safely done by the average general practitioner. I would advise that as soon as the general practitioner finds out that he is dealing with a posterior head, he call a competent consultant." (Professor of Obstetrics, Tufts College Medical School).

LOUIS H. DOUGLASS, M.D.

Baltimore, Maryland.

"For an early occiput posterior presentation, the generally recommended treatment is non-interference. The large majority of these will rotate anteriorly and will deliver without difficulty. . . It is my practice to apply forceps and make gentle traction, on late occiput posteriors. In some of these cases, descent is accompanied by spontaneous rotation of head, in which instance the forceps are taken off and reapplied; in other instances, delivery is rather easy with the occiput remaining posterior and in the third group, gentle traction does not produce satisfactory descent. In this latter group, the head should be rotated to an anterior occiput either by manually moving it or with forceps, and delivery is completed as with an anterior occiput." (Professor of Obstetrics, University of Maryland).

JOHN W. HARRIS, M.D.

University Hospital, Madison, Wis.

"Occiput posterior positions should be left alone until some specific indication for interference develops. The overwhelming majority rotate anteriorly and

deliver spontaneously with only a slight prolongation of labor. The relatively few that fail to rotate are best delivered by manual rotation followed by forceps. The great difficulty with the occiput posterior is that all too often the only ones that are recognized are those that fail to rotate and then, in many instances, the forceps are incorrectly applied." (Professor of Obstetrics).

FRANK R. LOCK, M.D.
Winston-Salem, N.C.

"No treatment is usually indicated for early occiput posterior positions. More than 90 percent of such positions spontaneously rotate and deliver, if they are permitted to do so . . . In late occiput-posteriors with impaction of the head, management is varied by individual consideration of the problem . . . The greatest problem presented by persistent occiput posterior positions is the marked delay in complete dilatation of the cervix and it is the great prolongation of the first stage of labor which confronts us. Most of the tragedies associated with this condition are due to attempts to terminate labor before the cervix has completely disappeared. We teach that no cervix is fully dilated as long as part of it is palpable by rectal or vaginal examination, since a fully dilated cervix retracts over the presenting part, out of reach of the examining finger. Attempts to terminate labor by operative measures before full dilatation is almost invariably associated with unwarranted loss of life." (Bowman Gray School of Medicine, Department of Obstetrics).

L.A. WILSON, M.D.
Roper Hospital, Charleston, S. C.

"There is no difference in the treatment of occiput posterior and anterior. One should meet the problems that develop."

EDWARD A. SCHUMANN, M.D.
Philadelphia, Penn.

"In early occiput posterior high in the pelvis, the accepted treatment is moderate sedation and expectancy. When the occiput is below the spines, the cervix is fully dilated and the occiput

shows no tendency to rotate, spontaneously, I prefer manual rotation either by the Pomeroy technic or after the method described in my textbook and subsequent forceps delivery. If this is impossible, the Scanzoni method is advised."

ROBERT D. MUSSEY, M.D.
Mayo Clinic, Rochester, Minnesota

"We usually do not attempt to disturb the occiput posterior position early in labor, as in many instances, it rotates spontaneously. If this does not occur, the usual procedure is to attempt to rotate the occiput manually. The question of whether forceps are used to rotate the occiput depends on the individual decision of the operator and the skill he may have in various methods of delivery. It may be allowed to deliver as an occiput posterior."

ALFRED C. BECK, M.D.
Brooklyn, N. Y.

"Our treatment for occipito posterior is the same as for occipito anterior (this is described at length in my book). If the labor is conducted properly in the first stage and the only complication is a posterior position of the occiput, little added difficulty should be encountered." (Professor of Obstetrics, Long Island College of Medicine).

S. A. COSGROVE, M.D.
Jersey City, N.J.

"Occiput posterior positions should be treated expectantly early in labor—almost 95 percent of them will rotate spontaneously.

"Late in labor, when it has been demonstrated that they will not so rotate, with the head very low in the pelvis and after complete dilatation and retraction of the cervix, we prefer to 1. rotate them manually and deliver with forceps or 2. rotate and extract with forceps (the Kielland instrument is especially adapted for this purpose). With arrest high in the pelvis, and the cervix not completely dilated and retracted, the occiput posterior position is obviously merely incidental to inlet disproportion and cesarean section is indicated." (Medical Director).

EDITORIALS

Refugee Physicians: An Apology

All of us, at one time or another, in the course of our livelihood, socially and in business have had the experience of wishing voluntarily to correct a mistake in judgment or to apologize for an unintentional error. It is a form of reparation that (even though somewhat of a makeshift arrangement) makes amends for human frailties, and eases our daily living with others, as well as ourselves.

In this regard Clinical Medicine wishes to tender its apologies to all studious refugee physicians for the editorial "Those Refugee Physicians" published in March 1946 issue. We wish to thank the physicians who wrote to us, and set us straight on this subject. Space does not permit complete publication of all the letters received here, but pertinent excerpts from the more informed letters are herewith used to show the general thought of the writers and to point out the errors, in the original Editorial, which we promised to do in our succeeding editorial on the subject (May 1946).

DISCUSSION

To the Editor:

You are right in emphasizing that "open discussion" is one of the most important achievements of democracy. Your readers are entitled to whatever information is available on the subject of "refugee physicians" (90% of whom, incidentally, are American citizens just as you and I). But did your editorial actually give full information to your readers? In all fairness, did you really think that your story about the one general practitioner refugee—who, of course, was a very poor physician—can be classified as "information"?

Your objections against refugee physicians, if I understand your editorials correctly, are the following:

1. That they settle in overcrowded cities where money is made easily, instead of going west to rural areas where physicians are needed;

2. That they use a national emergency to settle themselves;

3. That their training—especially in electrocardiography and roentgenology—is poor;

4. That their ethics are poor (you speak of "tendencies to insinuations regarding native physicians," "tremendous awareness of the dollar," "lavishly and impressively laid out equipment and furniture").

Two American physicians, teachers at American schools of highest repute, Drs. David L. Edsall of Boston, Mass., and Tracy J. Putman of Columbia University, New York, have published extensive reports on the subject, not in any obscure journal where it can be easily overlooked, but in the Journal of the American Medical Association (112: 1936, 114: 1063-1073, 117: 1831-1838) under the title of "The Emigre Physician in American Medicine." Their investigation covers the entire field up to the outbreak of the war. Later, Dr. Alfred E. Cohn, a member of the Rockefeller Institute, followed it up in the American Scholar 1943 with an article, "Exiled Physicians in the United States."

I wonder why so readily available, scientifically prepared evidence has not been used nor even mentioned in your editorials. It would have told you how many hundreds of refugee physicians practice in rural areas, and how many others were prevented from so doing by regulations which forbid foreign graduates or non-citizens to apply for licensing examinations. As a matter of fact, the latter happens frequently in the selfsame states which claim that they need physicians in rural areas.

For instance Iowa accepts applications for licenses from citizens only—in other words, a refugee doctor who wants to practice in Iowa must have lived in the United States more than five years before being allowed to take licensing examination. The necessity of making a living during these 5 years

has compelled many refugee physicians to settle elsewhere.

The above mentioned articles show that investigations involving objectionable professional ethics of refugee physicians were not above the proportion found among native physicians. Nobody claims that all immigrants are without faults—as a matter of fact, some have poor habits and little knowledge, but here again scientific investigation has shown that the average standards of immigrant physicians are not below the level of native American standards. Many of the former, incidentally, had to invest their entire funds in furniture and equipment before leaving their native lands, inasmuch as they were forbidden to take along any money. This may account for what you call "lavish and impressive equipment."

I cannot tell whether immigrant physicians are more "aware of the dollar" than native doctors—besides, I am afraid this is a subject which can hardly be discussed on a scientific basis.

As far as "tendencies to insinuations regarding other physicians" are concerned, it seems to me that in this respect immigrants might not be the only ones who could improve on their habits. Your own editorials have made me aware of this fact.

That you have found immigrant physicians poorly trained in electrocardiography and roentgenology—two sciences that originated in Europe—is remarkable. Looking through the catalogues of prominent American publishers, I find an unusually large number of medical books on these two subjects, edited by physicians with European training, many of whom hold appointments as teachers in well known American Medical Schools.

Lastly, there is your remark that we "used an era of national emergency to establish ourselves." In my own name and in the name of hundreds of "refugee physicians" who served in the armed forces (many had themselves drafted as privates in order to be able to join the army) I have to take issue with a statement that can only create distrust between those who were in the armed forces and those who had to stay home. The situation is the same for all physicians regardless of whether

they are immigrants or native born. In this connection, I would like to quote from a letter of the National Committee for resettlement of Foreign Physicians, 105 Nassau Street, New York 7, N. Y., an organization that will be glad to furnish any additional material on the subject you might desire:

"The war record of the foreign physician is unimpeachable. Despite the fact that the Army and Navy established citizenship, residence and other qualifications which barred most refugee doctors from securing medical commissions, several hundred succeeded by perseverance in volunteering for military duty. Those who remained in civilian life contributed notably toward maintaining essential medical services at home, with the approval and at the direction of the Procurement and Assignment Service of the War Manpower Commission. Many foreign physicians were placed in critical areas and vital medical posts in this way, and were subsequently frozen into their jobs for the duration. These public services were frequently performed at the sacrifice of financial advantages which might have been obtained elsewhere. In some cases, refugee doctors made locus tenes arrangements which protected the practices of American doctors entering the military service."

Why can't individuals be judged according to their personal qualifications and achievements rather than by general statements about groups? The refugee physicians had to overcome numerous obstacles, not the least of which was the antagonistic attitude taken by some of their American colleagues—the kind of attitude underlying some of the careless generalization included in the editorials of "Clinical Medicine."

A great American, Clarence Darrow, once said: "No man is white and no man is black. We are all freckled." This might be for physicians too—immigrants and natives alike.—WILFRED C. HULSE, M.D., New York, N. Y.

To the Editors:

The impression from your editorial is, wittingly or unwittingly, given that the average refugee physician is a selfish, poorly trained and unprofessional

individual who is out to take advantage of the situation created by the war scarcity of doctors. If you have any sense of fairness you will publish the following explanatory additions.

1. Most of the so-called refugee physicians who were able to fulfill the requirements for naturalization (five years residence in the U. S.) became American citizens at the earliest possible moment and volunteered for army service just like their native born colleagues.

2. Those who were here less than five years were non-citizen; not eligible for commission in the Medical Corps. They were usually deferred until their naturalization made them eligible for such appointment. Many, if not most of them, did creditable essential civilian work in their communities.

3. Many of the states who are in severe need of doctors have license statutes which make it virtually impossible for the foreign graduated physician to settle there, even if he would like to enter into a non-competitive practice. As a matter of fact the majority of our 48 states make it hard or impossible for a foreign graduate physician to satisfy their license requirements, no matter how good a man he may be.

4. While there is undoubtedly a certain number of refugee physicians who behave as parasites, it is an undeniable fact, that there is a greater number who are doing everything to become as good an American citizen as any native born man. They act as honestly, aptly and ethically as any native and unprejudiced professional society could want them to act.—MAX HIRSCHFELDER, M.D., Centralia, Ill.

To the Editor:

Whoever wrote the editorial "Those Refugee Physicians" did not, I am sorry to say, have his facts straight and appears to be biased.

I happen to be one of "those refugee physicians" and have been through the mill. I do not know of any state in the Union and certainly not in New York, that has admitted refugee physicians without examination since 1937.

The influx of refugees began really during 1938 and most of the states would not admit them anyhow. I interned in Minnesota, Kentucky, and was resident in a hospital in West Virginia, surely states that were and are in need of physicians, but it was impossible to obtain a license. The refugees had of necessity to concentrate in the few states that were liberal enough to admit them, though the ratio of physicians there was higher than anywhere else. This should contradict your statement that they strove to displace those physicians volunteered, and furthermore the refugee physicians were here before the war. I looked around for a long time in the states I was limited to and heard the funniest excuses why I should not locate in that particular area, though physicians were badly needed. I cannot say that I found encouragement anywhere. To be frank I did not expect any.

The clinical abilities of the refugee physicians will vary individually as every place. After four and a half years of hospital experience in this country as intern and resident in average general hospitals and such connected with medical schools I could have recited many instances of elementary mistakes that I have seen committed but it would not serve any constructive purpose, though I doubt that the average of mistakes made by refugee physicians is higher than anywhere else.—MAX PREMINGER, M.D., Plainfield, N. J.

To the Editor:

With reference to your editorial on "Refugee Physicians" there are two facts which you overlooked:

1. With New York State the only one to admit candidates to the State Board examinations without their being American citizens, it is small wonder the Refugee Physicians have been taking advantage of that privilege instead of waiting for five years to acquire citizenship.

2. With nearly 50% of candidates failing to take State Board examinations after repeated attempts (as many as 10), you may draw your own conclusion as to the "laxity" of the examinations in New York State.—S. RAB, M.D., Brooklyn, N. Y.



CLINICAL NOTES AND ABSTRACTS

The Treatment of Inoperable Malignant Disease in General Practice

Patients who suffer from inoperable disease are either male or female, young or aged, town dwellers or country folk, filled with faith or oppressed with doubt; busied with affairs or pre-occupied with themselves; burdened with kindred or sadly alone, they have much to leave or little. They are not a group select and exclusive. They are a cross-section of mankind, almost. Almost but not quite. The two extreme ends are missing. The extreme of youth and the extreme of age, for while it is not impossible for the very young or the very old to suffer inoperable malignant disease, it is very rare, and the treatment is governed in each case by considerations entirely divorced from the condition itself. To consider them as a group, as a class apart, is unwise, untrue, and unfair. The problem of their treatment needs not only depth but width. Width to consider the probable course of the condition; the complications which will arise; their reaction upon the patient, and their treatment in each case.

Patients who die of inoperable malignant disease do not become suddenly dedicated to death any more than men suddenly become most vile. Therefore, before the diagnosis has been arrived at there has been in most cases a limitation, a premonition, a change both physical and mental.

Broadly speaking, patients accept or resent their condition. Acceptance does not seem to depend upon age or upon comfort. Acceptance seems more common to country folk than to townspeople, to persons having strong, religious belief; to the lethargic and conservative rather than to the lively and radical.

On the material side, an endeavour should be made as early as possible to arrange for the patient to make his dispositions. If this is done early it has the double advantage of helping to clear and balance the mind, and overcoming one possible source of uncertainty in the future. The matter should never be thrust forward but where the confidence which should exist between physician and patient does exist, that opportunity will present itself.

Persons in direct touch with the land have characteristics of their own, based on their understanding of Nature. Being accustomed to sleep only when weary, they, frequently, first complain of sleeplessness. Chloral hydrate, one of the barbiturates, or one's favorite hypnotic may be used with advantage at first.

Persons in remote connection with the land differ. Birth to them is an obscene mystery, and death a subject to be avoided. Their fear of the unknown is great, because they have never been accustomed to recognise its constant existence. The brain is active. They are subjects, in the early stages, for bromides and for a strong infusion of hope.

The hopeless are difficult. They doubt and they fear. Every thing about them is exaggerated from their pains to their own importance. Time is their constant terror, and hyoscine frequently gives comfort.

The growth itself must be considered. Its site, its secondaries, possible complications. The probable mode of dying. Is it likely to interfere with the ingestion of food? If so, a gastrostomy should be considered. Is it likely to lead to intestinal obstruction? If so, colotomy

must be considered. Is it unclean, making the patient the object of disgust to himself and his fellows? If so, isolation and trained nursing are required early. Is the mind likely to lose its balance? If so, certification should be avoided wherever possible, partly because of the additional stigma, partly because the days are numbered.

If the patient has mental balance and the ability to get about, it is better for him to continue his normal activities as long as they can be pursued. The major hardship of the whole condition is the feeling of dedication to death. The longer this can be deferred the shorter it becomes and the more easily borne.

The use of alcohol needs consideration. Where it has been generally taken it would be cruel to refuse it. Where it aids digestion and itself is a food, it would be unwise to restrict it. Further than that, where it is not objected to and on proof that it increases well-being, assists sleep and renders life more tolerable, then it should be used rationally.

As disability increases and life becomes restricted to a narrow circle, the question of nursing arises. A room should be selected, if possible, not remote yet not noisy, with morning sun. The bed should be narrow and firm unless the patient has always slept on feathers. A routine should be established. The body should be sponged down daily with vinegar in the water in the country and eau de cologne in the town. Precautions should be taken against bed sores. Methylated spirit, surgical alcohol, or eau de cologne can be used. A good talcum powder is a little luxury. If the skin is broken, castor oil and zinc ointment is most useful. Or the part can be over-strapped with elastoplast or viscopaste. A commode will be needed later, and may be used sooner. It is always better to meet the inevitable half-way and not be driven by necessity.

The bowels should be watched and daily evacuation aimed at. Liquid paraffin is frequently sufficient, or one of its preparations such as Agarol. Enemas can be given, unless there is some contraindication, and are always useful where it is advisable to do something.

To what drug should we turn when pain presents itself or when sleeplessness will not yield to simpler type drugs? There is only one—opium. Opium is to be preferred to morphia, for it is tolerated better; smaller doses are needed; larger doses are not so rapidly called for; the constituents seem well balanced, and they seem to energise to activate each other. For the precise dose to meet the known and passing pain, or to prepare for a controlled event—labor or an anesthetic—morphine always. For regular use in the face of approaching and inevitable death, opium or some balanced preparation of its constituents.

After pain, comes the intolerable limitations of increasing decay. The body is becoming increasingly a narrow and uncomfortable cage. Hyoscine is safe, known and manageable, and its combination either with morphia or pantopon is attended with comfort.

The writer has used for this stage a prescription which bears the name of *injectio anthesiae*:

R Morphine Hydrochlor.	gr. 0.2000
Hyoscin Hydrobrom	gr. 0.0025
Ethylmorphin Hydrochlor	gr. 0.3000
Phenol	gr. 0.0500
Aq.	c.c. 10.000

It should be sterilized by tinctinnaliation and dispensed in a rubber-topped bottle. A suitable dosage is 5 minims every four hours but the dose can be increased in quantity and frequency until a drowsy state of comfort and well-being is obtained and retained. It relieves pain. It destroys time. It renders life tolerable. It creates in the patient a sense of well-being in a dream world.—JAMES E. OUTHWAITE, M.D., Ch.B. in *Medical World* (England) May, 1946

Mercurial Diuretics for Hypertension

Some hypertensive patients may have their blood pressure lowered almost to normal by the injection of a few doses of mercurial diuretic. It may be maintained so for a fairly long time by continuing such injections. Such patients have long standing hypertension, shortness of breath and enlargement of the heart. The successful cases develop copious diuresis and lose weight.—HARRY GOLD, M.D., in *N.Y.S.J.M.*, Jan. 1, 1946.

Coronary Occlusion

The premonitory signs of coronary occlusion are:

- 1—slight pain or sense of tightness within the chest which may or may not be associated with a dull pain which radiates especially to the left arm.
- 2—epigastric distress of a vague type may accompany the chest pain or may be the only early sign of warning.

With the onset of coronary occlusion, usually, an agonizing chest pain with a burning, constricting or pressure sensation appears with nausea and vomiting following promptly. Great weakness or prostration may be complained of. The pain may be referred to the left arm, neck, jaws, abdomen, or right arm. The face is ashy and the features register an almost unbearable pain. The blood pressure frequently falls within a few hours after the onset of symptoms; the low pressure existing for an indefinite time. Pulmonary edema is often associated with cyanosis. Hemoptysis may be noted in severe congestion in the lungs. Cerebral symptoms, such as mild delirium or a semicomatose condition may be brought on by the sudden fall of pressure, associated pain, emotional disturbance, or sedatives.

Painless coronary occlusion does occur in chronic infarction as a result of a gradual narrowing or closure of the coronary artery. Acute shock or dyspnea may be the only symptom in myocardial infarction, followed in two or three days by a fever of 101 to 103. — RALPH L. FISHER, M.D. (Dept. of Internal Medicine, Riverside Clinic, Detroit, Michigan) in *J.A.M.A.*, June 1, 1946.

Purpura

One should remove the cause, treat the local hemorrhage, give vitamins, transfusions and, in certain cases, recommend splenectomy. A large proportion of purpuric patients are suffering from a disease or intoxication due to an injurious chemical or physical agent.—S. L. VAUGHAN, M.D. in *N.Y. S.J. Med.*, Jan. 1945.

Hemophilia and Hypoprothrombinemia

Menstruation

The average age for the onset of menstruation is about thirteen years, with the range from eleven to fifteen years. Variations in the time of the occurrence of the first menstrual period are closely correlated with variations in other developmental occurrences, and may, therefore, be looked on as due to the speed or advancement of general maturation. The timing of this event occurs regularly at a particular stage of development.

A period of physiologic sterility follows the onset of menstruation. Conception can occur very early, but seldom does so before the age of 16 regardless of the age of the menarche.—HAROLD C. STEWARD, M.D., in *New Eng. Jnl. of Med.*, May 23, 1946.

To the Editor:

Arteriosclerosis of the Legs

Certain patients with arteriosclerosis of the leg arteries, and resultant pain on walking, arteriosclerotic gangrene, or intractable neuritic pain are much benefited by lumbar sympathectomy. Sympathectomy is performed if a lumbar sympathetic procaine block results in increasing warmth or relieves pain in the leg. Amputation may be averted or performed at a lower level in cases of impending gangrene.—G. DETAKATS, M.D. in *J.A.M.A.*, June 8, 1946.

Furunculosis and Styes

Local treatment, except for comfort, seems to be of little value in furuncles and styes, except for the use of wet dressings in inflamed and draining single or multiple headed furuncles.

The intradermal injection of staphylococcus toxoid in doses of one-tenth to two-tenths cc repeated at two or three day intervals for usually three or four doses is frequently effective, apparently due to the decrease in immunity of the individual. When it fails an autogenous vaccine usually will give sufficient immunity. Although either treatment may have to be repeated the following summer until the child develops sufficient natural immunity to protect him.—LEE BIVINGS, M.D., in *S. Med. Jnl.*, June 1946.

Shoulder Injuries: Differential Diagnoses

SHOULDER INJURIES

DIFFERENTIAL DIAGNOSES

	PAIN	TENDERNESS	SWELLING	LIMITED MOTION	ATROPHY	NEUROLOGIC SIGNS	SYSTEMIC	X-RAY
1. Cervical Region a. Myofascitis b. and trauma	On motion of neck, referred to arm	Cervical nodes, not in shoulder	None	Limited motion of neck, not in shoulder	None	May be radicular reflex type	May be focal or toxic sources	Local lippling vertebral margins
2. Herniated disk	Local and referred arm-hand	Localized 5-6-7 cervical	None	Wry neck, muscle spasm	Shoulder muscles	Loss reflex, numbness, paresthesia, tingling, thumb	None	Cervical curve straightened narrow disk
3. Scalenus anticus	Referred to arm-hand	Base neck-1st rib	Hand	None	Forearm, hand	Trophic vasomotor changes reflexes normal	Postural faults, fatigue, occupation strain	Negative
4. Cervical rib	Referred to arm-hand	Base neck-1st rib	Hand	None	Forearm, hand	Trophic vasomotor changes reflexes normal	None	Cervical rib
5. Cardiovascular	Substernal left side	Sensitive points	None	None	None	May be vasomotor changes	Cardio-vascular changes	Negative
6. Peripheral vascular	Referred arm-inner, hand	Indefinite	Hand-fingers	None	None	Trophic vasomotor changes, gangrene	Heart-blood vessel changes	Negative
7. Cervico-brachial neuritis	Brachial plexus	Directly along nerves	Mild to severe	Due to pain	Trophic along nerve course	Hyperesthesia, causalgia	Focal or toxic symptoms	Negative
8. Neurosis	No definite pattern	Inconsistent	None	Voluntary	None	No changes	Emotional factors	Negative

II. Rheumatic 1. Periarthritis "Frozen shoulder"

2. Bursitis-tendonitis

3. Rheumatoid

4. Myofasciitis- neck

5. Osteoarthritis shoulder

6. Specific arthritis

7. New growth

III Capsule and Tendon 1. Supraspinatus rupture

2. Long head biceps

3. Bone and joint fractures- dislocation

Severe to mild	Periarticular	Moderate severe	Loss of abduction and rotation	Severe shoulder	No changes	Foci infection, High sed. rate	Bone atrophy shoulder structures
On 70-150° abduction	Definite over bursa	Tip of shoulder	Loss of abduction	Abductors of shoulder	None	None	Negative for calcareous deposits
On any motion of shoulder	About joint	Synovial swelling of shoulder	Motion limited in all directions	General disuse	None	Those common to rheumatoid disease	Atrophy of joint space
Neck sub-occipital	Trapezius other neck muscles	None	None	None	None	Foci infection, allergy	Negative or mild osteoarthritis
On active motion more than passive	Peri-articular	None	Mild to severe with crepitus	Shoulder, arm	None	May be foci or toxic sources.	Osteophytes eroded, narrowed joint
Local to shoulder	Local to shoulder	Shoulder joint	Because of pain and swelling	In chronic cases	None	Positive laboratory tests	Destruction of joint
Referred or local over tumor	Over tumor	Point of tumor	Mechanical from tumor	Little or none	None	None except malignancy	Evidence of new growth
On abduction of shoulder	Over tuberosity	Local over tuberosity	Inability to initiate abduction	Deltoid moderate	None	None	Negative
Rupture sudden	Over tendon	Local behind muscle belly	Little or none	Little or none	None	Often back-swinging periarthritis	Negative
Local	Local, direct and indirect	Local deformity ecchymosis swelling	Due to pain and muscle spasm	Deltoid in old cases	Nerve injury complications	None	Fracture or dislocation pathology

Palpitation

Palpitation is a common symptom rarely due to serious disease and readily amenable to treatment once the cause of the condition is recognized.

It is not indicative of any disease process and occurs in healthy persons under conditions of severe exertion or strong emotional stress. It is only significant when it occurs in the absence of such obvious factors.

The most frequent cause is disturbance of the rate or rhythm of the heart, as caused by premature beat. Premature beat may be caused by tobacco, alcohol, caffeine, digitalis, and distension of the abdomen. If premature beats are frequent, they can be relieved by potassium salts or of quinidine.

Auricular fibrillation occurs in persons with structural heart disease, especially due to goiter, mitral stenosis and senile degeneration of the myocardium.

Paroxysmal auricular tachycardia is fairly common and should be suspected in a person with a normal heart who has attacks of extreme tachycardia of instantaneous onset, if the rhythm is regular and 180 or faster per minute. Vagal stimulation by pressure on the carotid sinus or eyeballs, by forced expiration against a closed glottis, or the induction of gagging or vomiting often causes the attacks to cease.

Secondary Disturbances

Hypothyroidism, anemia, fever and spontaneous hypoglycemia may cause the increase in rate in secondary palpitation.

Spontaneous hypoglycemia may be suspected if the patient states that eating tends to prevent or relieve the palpitation. If the patient takes a diet very low in carbohydrate and high in protein, hypoglycemic symptoms will disappear.

One of the most common causes of palpitation is neurocirculatory asthenia, including nervousness, weakness and quick fatigue. This condition is often caused by severe emotional stress.

Treatment

The treatment of palpitation is the treatment of the cause. Each case should be investigated from the standpoint of a possible disturbance of the rhythm

of the heart and, hence should be seen when the symptoms are present if possible.

Search for goiter, anemia, low-grade infections and for hypoglycemia. If these conditions can be eliminated and if the patient presents the personality picture of an anxiety state, the condition is probably psychogenic in origin. —T. R. HARRISON, M.D., *Texas S. J. Med.*, Jan. 1946.

Diaper Rash

The diapers should be rinsed in weak mercury bichloride solution, made up by adding one tablet to a gallon of water. The napkin is allowed to dry with the bichloride solution present in it. The irritated skin is protected by a soothing paste made up of powdered corn starch mixed with white vaseline for thickness and body. This is applied freely at bedtime and during the day and gives the skin a chance to heal, while the proteus bacillus is removed by the inhibiting action of the bichloride. Occasionally a mercury dermatitis follows the use of the bichloride solution. Such a skin reaction subsides with the elimination of the bichloride rinse of the diapers. —LEE BIVINGS, M.D., in *S. Med. Jnl.*, June 1946.

Intertrigo

Cracking of the skin in folds, especially in the groin, is often due to over use of oils and greases. Unless a purulent condition has followed as a complication, the use of dry pastes or soap and water followed by talcum powder seems to be an effective treatment.

The skin of young infants, especially during the summer months, remains free from irritation and infection if oil is not used at all or very sparingly with the generous use of soap and water followed by plentiful talcum powder. This is especially true in areas of the body where there is poor ventilation of the skin, such as folds around the neck, the axillae and groins.

In treating the sensitive skin of children, it is better to under treat than over treat. Strong ointments should be avoided as should strong concentrations of drugs in any vehicle. Soap and water

are probably the best and most effective single remedy in the treatment of skin infections in children.—LEE BIVINGS, M.D., (20 Fourth Street, N.W., Atlanta, Ga.) in *S. Med. Jnl.*, June 1946.

The General Practitioner

Browning feels that it is more difficult to produce a competent general practitioner than a specialist. The general practitioner must deal with every conceivable emergency—must know when specialist help is required—and, if such help is not available, do the best that circumstances allow. Barring exceptions, the general practitioner has little opportunity to add to the fundamental knowledge required of undergraduates. He has little opportunity to meet with authorities who are in a position to review new ideas in the light of practical experience. Browning reiterates the commonly accepted recommendation that retention of licensure depend on return to a teaching center for at least three months every three or four years for a course designed to keep the practitioner in touch with current methods.—*J.A.M.A.*, June 1, 1946.

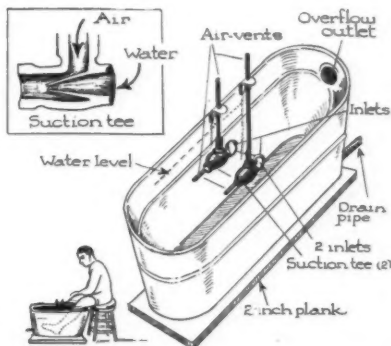
Diagnostic and Therapeutic Errors in Blood Dyscrasias

1. Carcinoma of the stomach and colon treated as "anemia" until all hope of surgical cure is lost.
2. Irreversible disability in spinal cord disease of pernicious anemia due to missed diagnosis or inadequate treatment.
3. Death from injudicious use of transfusion, especially in cases of hemolytic jaundice.
4. Disability and invalidism of many years' standing in hypothyroidism treated solely for the associated anemia or the appearance of anemia.
5. Agranulocytosis due to the administration of unnecessary drugs.
6. Prolonged invalidism in iron-deficiency anemias treated with hypodermic iron injections, and pernicious anemia treated with inadequate dosage of oral preparations.
7. Mental suffering resulting from too much or too little frankness in explaining the prognosis of serious diseases.—S. L. VAUGHAN, M.D. (187 Linwood, Buffalo, New York) in *N. Y. S. J. Med.*, Jan. 1, 1946.

Homemade Whirlpool Bath

For the treatment of injured arms or legs, an inexpensive whirlpool bath may be constructed by any plumber. These Clinical Medicine sketches are adapted from the photographs in *Archives of Physical Therapy*, (May, 1938) to indicate the McDaniel Suction Tee with air vent and water inflow, the details of the bath and the use of the bath for exercising the knee.

The bath constructed by us has the following dimensions: length 28½, width 12, depth 27½ inches. The tank is made of copper with two inlets connected through a "T" joint with a common pipe from a mixing valve. Each inlet is equipped with a one-half inch McDaniel suction tee, with an air-vent pipe from the tee to the top of the bath thus providing adequate air mixing; the inlets are placed 4 and 18 inches above the bottom and near the outlet. The piping used throughout is standard 1 inch gal-



vanized pipe. The overflow outlet is placed at one end as near the top as is practicable (2½ inches from the top of bath to top of overflow); the diameter of this is 2½ inches. The entire bath is placed on one thickness of a 2-inch plank to facilitate assembly and drainage.—B. L. BOYNTON, M.D., Madison, Wis.



THUMBNAIL THERAPEUTICS

Nicotinic Acid for Vincent's Angina

A 50 mg. tablet of nicotinic acid (or nicotinamide) will cure many cases of Vincent's angina. For children, 10 mg. and upward according to age. A week's treatment is usually sufficient. Fever subsides in 2 or 3 days, and smears become negative in 4 to 7 days.—WINGATE M. JOHNSON, M.D., Winston-Salem, North Carolina. (Penicillin is very effective for the more severe cases, but nicotinic acid, a fraction of the vitamin B complex is simple, cheap, and may be used on ambulatory patients. Daily forceful spraying of hydrogen peroxide around all the tooth roots is a proved method, in use at Marine Hospitals.—Ed.)

Choline for Hepatitis and Cirrhosis

Administration of choline tends to prevent further development of cirrhosis and produces a marked improvement in liver parenchyma.—JAMES LOWRY, M.D. in *Quarterly J. Alcohol*, Dec. 1945.

Heat for Pruritis

Hot soaks or applications temporarily intensifies itching, then relieves it for a number of hours.—MARKS S. SHAIN, M.D. (New York City) in *J.A.M.A.*, Nov. 10, 1945.

Prostatectomy

It is of the highest importance that prostatectomy should neither be attempted in the presence of gross infection nor until it has been proved that renal function is adequate. Preliminary ligation and division of the vasa deferentia has banished the troublesome complication of post-operative epididymo-orchitis.—"A Short Practice of Surgery" by Hamilton Bailey, M.D. (H. K. Lewis & Co. Ltd.).

Thyroid Extract During Pregnancy

Pregnant women who complain of lassitude, indigestion, irritability and tendency to increase weight should be given oral thyroid extract, the dose increasing from $\frac{1}{2}$ grain daily until pulse reaches 80 or until signs of intolerance appear. Relief of symptoms will appear within 10 days, especially if the pulse rate is 60 or less and if the patient is tolerant of thyroid extract.—ARCHIBALD CAMPELL, M.D. in *J. Omaha Mid-West Clin. Soc.* Jan. 1946.

Early Rising in the Puerperium

Delivered women can safely get up in the first few days of the puerperium, with improvement of bowel function. There is no advantage to the third or fourth day of rising compared to the first or second day. Perineal wounds heal well.—G. ROSENELUM, M.D. in *J.A.M.A.*, Nov. 24, 1945.

Prevention of Tonsillectomy Bleeding

Vitamin K should be given to patients preceding tonsillectomy and following the operation, if aspirin or other salicylates are used. A hyp thrombinopenic state induced by salicylate medication is one of the most important causes of secondary tonsillar hemorrhage. By using vitamin K (as Synkavite) with acetylsalicylic acid, the thrombin lowering effect does not appear and the incidence of bleeding is much decreased.—HARRY NEIVERT, M.D. (480 Park Ave., New York City). in *J.A.M.A.*, Mar. 16, 1946.

Soft Toothbrush

Add a few drops of ammonia to cold water and soak the toothbrush for a short time. This will prevent the bristles from becoming soft.—*South African Dent. J.*, June, 1945.



DIAGNOSTIC POINTERS

Indications for Nephrectomy

The indications for nephrectomy are severe kidney trauma, tuberculosis, tumors, extensive chronic or acute infection with destruction of the kidney, large calculi which cannot be removed successfully without removal of the kidney, certain cases of ectopic kidney, and selected cases of hydronephrosis.—From "Operations of General Surgery" by Thomas G. Orr (W. B. Saunders Company).

Don't Grasp the Intestine

A young matron died in shock after hysterectomy. At autopsy, the small intestine showed many bruised oval markings from having been grasped and roughly manipulated by sponge holding type of forceps. She died from massive hemorrhage into the intestine caused by trauma.—Geo. H. BUNCH, M.D. in *South. Med. & Surg.*, Nov. 1943.

Orogenital Syndrome

There is a concurrent dermatitis of the scrotum or vulva and an angular stomatitis due to riboflavin deficiency.—E. UBRACH, M.D., in *Penn. Med. J.*, May, 1946.

Head Pain

An impacted tooth may remain for years and never give rise to symptoms or it may cause pain in various parts of the head. Often the pain seems to originate in areas not immediately surrounding the impaction area, or it may cause local swelling and diffuse cellulitis of the face. An impacted tooth may cause a multiplicity of systemic disturbances.

An impacted tooth should be removed while the infection is quiescent.—J. H. GUION, D.D.S. in *Southern Med. & Surg.* Dec., 1945.

Diagnostic Pointer Chronic Nasal Symptoms

The majority of chronic nasal symptoms seen in office practice are of allergic origin. The underlying allergy may be complicated by a super-imposed infection.—G. E. SHAMBAUGH, M.D. (Chicago), in *Annals Otology*, Dec. 1945.

Functional Diarrhea

Functional (nervous) diarrhea lasts for only an hour, or a day or two. Functional diarrhea rarely causes the patient to have a bowel movement at night. The sedimentation rate is low. — WALTER ALVAREZ, M.D., in *South. Med. J.*, May 1946.

Soap Dermatitis

The use of soap may initiate, aggravate, or prolong a dermatitis. It may predispose to the development of cutaneous irritation or sensitization from other causes.—B. T. GUILD, M.D., in *Med. World*, (Eng.), Oct. 19, 1945.

Neostigmine for Colonic Spasm

15 mg. of neostigmine bromide (prostigmine) orally before meals relieves abdominal distress due to colonic spasm.—M. H. MORRIS, M.D. in *New York S. J. M.*, Mar. 1, 1946.

Suffocation in Infancy

Unsuspected respiratory infection causes most of the deaths usually attributed to accidental suffocation. Uncomplicated bronchial infections, bronchopneumonia with otitis media and bronchopneumonia plus miscellaneous causes, have been shown at postmortem to be the cause of suffocation in over 80 per cent of cases.—W. H. DAVISON, M.C., (Birmingham, England) in *British Med. J.*, Nov. 1945.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to **CLINICAL MEDICINE**, Waukegan, Ill., is accompanied by a check for the published price of the book.

Quick Reference Book for Medicine and Surgery

A Clinical, Diagnostic and Therapeutic Digest of General Medicine, Surgery and the Specialties, Compiled Systematically from Modern Literature. By George E. Rehberger, M.D. Lippincott 13th Ed., 1946. \$15.00.

Over one thousand four hundred pages of text and illustrations, many in color, represent a tremendous amount of time and effort in summarizing every field of medicine and surgery. Such a digest is of value to a practitioner who limits his work to one field but who wishes occasionally to quickly learn the practical points concerning one topic in another field.

The editor has carried out his task better than could be expected, but has not eliminated enough of the older material which is only of historical value now.

There is a tendency to list many methods of carrying out a procedure, e.g. blood transfusion, rather than detailing one or two techniques so completely that they could be carried out easily.

The colored illustrations are of real teaching value.

The Modern Treatment of Diabetes Mellitus

By William S. Collens, M.D., Chief of Diabetic Clinic, Israel Zion Hospital and Louis C. Boas, M.D., Assistant in Diabetic Clinic. Charles C. Thomas, 1946. \$8.50.

This is a book on diabetes for the general practitioner. It gives many practical suggestions for relief of symptoms, e.g. for diabetic pruritus vulvae, the patient is instructed to wash the vulva with ordinary tap water after each voiding, to take a vaginal douche twice daily with warm 5 percent boric acid solution and to apply 3 percent ammoniated mercury ointment. Diet lists are given which make it simple for less intelligent patients to follow. A diet calculator permits the physician to be almost his own dietitian.

Medical Services by Government

(Local, State and Federal)

By Bernhard J. Stern, Ph.D., Lecturer in Sociology, Columbia University. Commonwealth Fund, 1945. \$1.50.

A complete statistical analysis of the various attempts and working methods providing medical care by government agencies. Facts are presented without any bias in favor of any type of medical care.

Pneumoperitoneum Treatment

By A. L. Banyai, M.D., F.A.C.P., F.C.C.P. Assoc. Clin. Prof. Med., Marquette University Medical School, Milwaukee. C. V. Mosby Co., 1946. \$8.50.

The author has reviewed the literature on the use of therapeutic air injections into the peritoneal cavity and presents his own observations with this method of treatment on hundreds of patients.

References are made to the fact that intraperitoneal injections of 300 to 500 cc. of air restore the respiratory excursions of the diaphragm to normal in emphysema, relieve dyspnea and cyanosis, and alleviate the bronchitis. It is not commonly known that repeated air injections may cause fluid and adhesion formation in the upper peritoneal cavity, just as it does in the pleural cavity (this defense process is less serious, as it usually does not interfere with function of the abdominal organs). Many cases are described and roentgenograms shown during the course of treatment.

The French Doctor

(In the Literature of the Sixteenth Century) By Nancy F. Osborne. King's Crown Press, 1946. \$2.00.

To anyone who feels discouraged about incompetency, greediness and scientific immaturity among today's physicians, a good dose of the superstition, malice and knavery contained in this text will be an effective antidote.

Sex Problems of the Returned Veteran

By Howard Kitching, M.D. Foreword by Ernest R. Groves, Prof. Sociology, Univ. N. Carolina. Emerson Books, 1946. \$1.50.

A little volume with a big message to the men in military service and to their wives. The physical and psychic causes of unhappiness are discussed together with methods of prevention. Sexual difficulties are discussed so frankly and simply that a not too well informed or too well educated layman or laywoman can understand them.

It should be prescribed reading for every stay at home wife and separated husband. When he returns, it may be read by both. The suggestions on making intercourse more enjoyable for the woman may prevent future unhappiness.

One of the most striking ideas presented is that of the conversion of "you" and "I" into "us" in the formation of a happy, successful marriage.—R.L.G.